# ABSTRACT OF THE DISCLOSURE

A DSSS system determines transmission reliability of a communication channel in real time. A DSSS transmitter ($f_0 = 1/T$) generates a Pseudo Noise (PN) code and modulates a carrier source [cos. ($2 \Sigma \gamma_c$)] with a selected chip rate. The transmitter bandwidth is a direct function of the chip rate. The PN coded carrier signal is further modulated by a data signal [$m(t)$] to provide an output signal [$s(t)$] to a correlator via a communication channel for purposes of determining the transmission characteristic of the channel. The correlator running a variable length pseudo noise code combines the code and the carrier which relates the incoming data signal to a correlation value for detecting the data signal. The correlation value is compared to a threshold value based upon experience of reliable transmission of data through the communication channel. The value of the correlation value declines as the data is attenuated in the communication channel, thus, the band limiting effect of the communication can be determined by the change in the correlation value.

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